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AUTHOR Lisack, J. P.
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ABSTRACT

Selected data from three of the latest summary reports of the College Board's Admissions Testing Program (ATP) are presented. They are: College Bound Seniors, 1980-National, Midwestern, and Indiana. Data including Scholastic Aptitude Test (SAT) scores, the Test of Standard Written English (TSWE) scores, and information from the Student Descriptive Questionnaire (SDQ) were compared to identify differences and similarities between the three populations. Highlights of relationships include: (1) the higher the proportion of students taking the SAT tests, the lower the SAT mean scores, the lower the self-reported high school mean grades, the lower the mean high school grade point average, and the lower the self-reported class rank; (2) in Indiana where the highest proportion of high school students took the SAT test, the annual parental (mean) contribution towards applicants' education was lowest, annual parental (mean) income and parental contribution toward education by applicants' SAT score averages were lowest, and a higher proportion indicated their planned degree level to be two years whereas a smaller proportion planned graduate study. (RL)

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A COMPARISON STUDY OF THE COLLEGE BOARD SCHOLASTIC APTITUDE TEST SCORES BETWEEN STUDENTS IN INDIANA, THE MIDWESTERN REGION, AND THE NATION

INCLUDES TEST SCORES, HIGH SCHOOL RECORDS, SOCIOECONOMIC CHARACTERISTICS, AND COLLEGE PLANS

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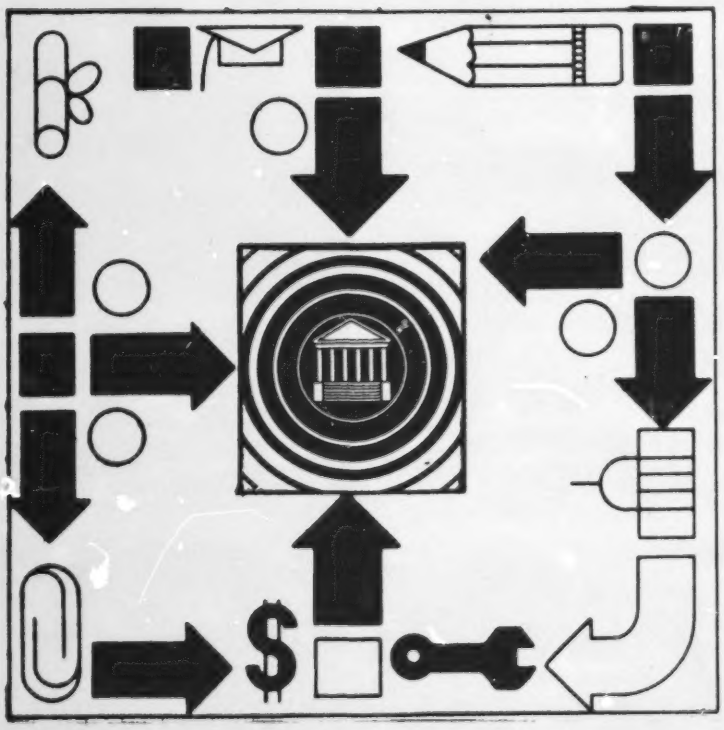

MONOGRAPH 80-1

10 November, 1980

Dr. J. P. Lisack, Director
Office of Manpower Studies
Purdue University, SCC-A
West Lafayette, Indiana 47907

PURPOSE AND DESCRIPTION OF THIS MONOGRAPH

PURPOSE

The purpose of this report is to present some pertinent facts about Indiana's high school seniors' College Board Admission Testing Program results. There is much need for this information to facilitate rationale and responsible actions.

ABOUT THE COLLEGE BOARD*

The College Board is a nonprofit national membership association. Among the College Board's major service areas are the testing of high school students for college admission, credit, and placement, as well as the provision of descriptive student information. Nearly one million high school seniors participated in the College Board's Admissions Testing Program (ATP). There they met the Scholastic Aptitude Test (SAT), the Test of Standard Written English, and the Student Descriptive Questionnaire (SDQ). Through their participation, they created a pool of information about themselves which is published by the College Board in a series of summary reports.

ABOUT THIS REPORT

This particular monograph is based on selected data extracted from three of the latest summary reports. They are: College Bound Seniors, 1980, NATIONAL; College Bound Seniors, 1980, MIDWESTERN; and College Bound Seniors, 1980, INDIANA. Essentially, comparisons of data are made to identify differences and similarities between these three populations. Highlights and some observations are developed by the author.

A Summary is provided (on canary colored pages) for the convenience of readers. Other related materials are included as attachments.

ACKNOWLEDGEMENTS

Appreciation is expressed to Arthur Doyle, Director of Midwest Research, and John Vaccaro, Associate Regional Director of The College Board*, for their cooperation. Also, appreciation is expressed to Ms. Linda Achgill for the preparation of the tables and typing of this report.

The author takes sole responsibility for any errors or interpretation of data in this report.

Dr. J. P. Lisack, Director
Office of Manpower Studies
Purdue University, SCC-A
W. Lafayette IN 47907

*The College Board, 500 Davis Street, Evanston IL 60201.

COMPARISONS OF COLLEGE BOARD ATP SUMMARY REPORTS
NATIONAL, MIDWESTERN, AND INDIANA*
1979-80 COLLEGE-BOUND HIGH SCHOOL STUDENTS

This report is based largely on data taken from the most recent College Board ATP records of 1978-79 seniors who registered for SAT tests at any time during their high school years. The March 1980 administration is the most recent one from which records are included. Numbers in this report for the three areas covered were:

Indiana			Midwestern			National**		
Male	Female	Total	Male	Female	Total	Male	Female	Total
17,812	20,866	38,678	67,988	70,355	138,343	504,390	534,002	1,047,392

The College Board, 500 Davis Street, Evanston IL 60201.
***See Attachment 1 for HIGHLIGHTS of the College Board NATIONAL REPORT - 1980.*

COLLEGE BOARD TRENDS

High school seniors scored lower on the Scholastic Aptitude Test (SAT) again in 1979-80, continuing a decline that began 17 years ago. The nearly one million college-bound seniors who took the '79-'80 test averaged 424 in verbal and 466 in math, down three points and one point respectively from a year earlier. Indiana seniors scored 407 verbal and 450 math, down five points in both subjects from a year earlier. (The 2½ hour, multiple choice test was created in 1941 to fit a scale of 200-to-800 with the average score expected to be 500.)

About half the three million students who graduated from high school last June are now in college, and two-thirds took the SAT. The College Board estimated that if every high school senior took the SAT, the average verbal score would be 368 and math 402.

INDIANA SAT SCORES VS. MIDWESTERN AND NATIONAL AVERAGES

The fact is that a much greater proportion of the Indiana high school seniors take these tests. For example, in the 1979-80 test, 106% of the estimated college-bound Indiana seniors took the test (i.e., six percent more than the number estimated to go to college): This compares with the National average of 64%. Data show that the higher the proportion of high school seniors who take the tests, the lower their average scores will be. See ATTACHMENT II for a series of tables and figures that illustrates this relationship. This relationship is not only apparent in test scores, it carries over into high school records, socioeconomic characteristics, and college plans.

The same relationship between proportions of students taking tests and scores achieved is supported in the ACTP--where the proportions of Indiana students taking the tests are lower than the National averages, but their scores are higher.(*See Attachment III.*)

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(On canary-colored paper)

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SUMMARY

TEST SCORES

For the past ten years, the verbal and math score averages of the College Board Scholastic Aptitude Tests (SAT) for high school seniors in the Midwestern Region have consistently been higher than the National averages--and Indiana students have scored the lowest.

However, during this entire period, a much higher proportion of estimated college-bound high school students in Indiana took the SAT tests than did the proportions of college-bound high school students in the Midwest or Nationally.

Males had higher (mean) verbal and math SAT scores, but females excelled on the Test of Standard Written English.

HIGH SCHOOL RECORD

Students in all three geographic groups reported their highest grades in high school to be in social studies, followed by English and bio-sciences: the lowest grades were in math and physical sciences.

High school students in the Midwestern Region reported the highest grades: Indiana students scored lower than the Midwestern averages in all subjects. Indiana students were also lower than the National averages in all subjects except foreign languages--where they were slightly higher--and in the bio-sciences, where they were even.

The most number of years of study in high school (for all students) was in English, followed by math, then social studies; the least time was in bio-sciences and physical sciences. Indiana students reported fewer years' of study in every subject listed. Although math was ranked the second highest (longest) in years of study, it ranked sixth (the lowest) in reported grades: the highest grades were reported in social studies which ranked third in years of study.

The large majority of students taking the SAT tests had a grade point average in high school at or above the "B" level. Midwestern Region students were highest (64.5% at ≥B), the National average was 58.2% with Indiana at 55.7% at the B average or higher.

Nearly 90% of the Indiana students taking the tests were enrolled in public high schools--this contrasts sharply with Midwestern and National groups--which were made up of nearly 20% non-public students.

SOCIOECONOMIC CHARACTERISTICS

About 10% of the high school students in both Indiana and the Midwestern Region who took the SAT tests are members of minority groups; this compares with about 18% Nationally. The largest single minority group is made up of black students (∿7% throughout the Midwest and 9% Nationally).

Overall, more minority group females than males took the SAT tests--with one exception, more Oriental males took the test than females.

The lowest parental income and parental contribution toward applicants' education were for blacks, next lowest were Puerto Rican, then Mexican American: the highest were for whites followed by Oriental, then American Indian. In general, Midwestern parental incomes and parental contributions were highest, with the lower Indiana averages being more comparable with the Nation at large.

There is a direct relationship between SAT scores and the annual parental income and parental contribution toward education: the higher the income and contribution; the higher the SAT scores. The mean annual parental income and contribution of Indiana parents are below the Midwestern and National means. (The reader is reminded that a much higher proportion of Indiana high school students take the SAT tests.)

COLLEGE PLANS

Proportionately, nearly twice as many Indiana students taking the SAT tests indicate their planned degree level to be two-year training program or associate degree as compared to Midwestern or National averages (∿10% in Indiana vs. 5% of others). More females than males chose the two-year level in all three geographic groups.

About 31% of all students in the three geographic groups chose the BA or BS degree level.

Whereas Indiana is highest at the two-year program level, it is lowest at the graduate study level (32% for Indiana vs. 46% for the Midwest Region and 42% Nationally). In all three regions, more males than females reported graduate level degree goals. A higher proportion of Indiana students than in the other two groups, were undecided as to their planned degree level.

COLLEGE PLANS (CONTINUED)

There is a striking similarity among the three geographic groups concerning students' plans to ask the college for special assistance. Approximately 37% report they will need assistance in getting part-time work, ∿35% need educational counseling and ∿28% need vocational and career counseling. About 22% need help in developing study skills, 16% need help in math, 13% in writing and 12% in reading skills. Fewer than 4% said they would ask for personal counseling. *(Students could make more than one choice.)*

The five most frequently chosen areas of study in all three geographic groups are:

(1) Business & Commerce--popular with both sexes
(2) Health & Medical--popular with both sexes
(3) Engineering--more popular with male students
(4) Education--more popular with female students
(5) Social sciences--popular with both sexes
(5) Computer related--more popular with male students.

There is a remarkable similarity in the rank orders of SAT verbal and math (mean) scores in the five most popular intended major areas of study in all three geographic groups. These are:

Intended Area of Study	SAT Score Rank
Physical Sciences & Related Areas	1st (highest)
Bio-Sciences & Related Areas	2nd
Arts & Humanities	3rd
Social Sciences and Related Areas	4th
Business, Commerce & Communications	5th

Students with the highest math SAT scores chose math, physical science, engineering, computer science, and biological science. The few chosen fields of study where verbal SAT scores are higher than math scores include foreign languages, music, theater arts, and library science.

About 25% of the students taking SAT tests plan to apply for advanced placement in English, ∿20% in math, 14% in foreign languages, 12% in social studies and 10% in physical sciences, 8% in bio-sciences and 7% in art and music. In general, a lower percentage of Indiana students planned to apply for advanced placement than did Midwestern students or the Nation as a whole.

The majority of students prefer to live in a campus dormitory (males preferring coed and females preferring single-sex dorms). The least popular choice for both Indiana and Midwestern Region students was off-campus apartments; however, the least popular Nationally was fraternity or sorority.

RELATIONSHIPS

I. There are a number of salient relationships between the proportions of college-bound students and (1) SAT test scores, (2) high school records, (3) socioeconomic characteristics, and (4) college plans. These relationships include:

The higher the proportion of students taking the SAT tests,
the lower the SAT mean scores (Δ are statistically significant)
the lower the self-reported high school (mean) grades in English, math, foreign languages, bio-sciences, physical sciences, and social studies
the lower the (mean) high school grade average
the lower the self-reported class rank.

NOTE: In all of the above instances, data for Indiana students where the proportion of high school students taking the SAT tests were high, show a more even distribution across entire ranges or spans, whereas where the proportions of students taking the SAT tests were lower (i.e., the Midwestern Region and Nationally), the data were skewed more to the high side of the ranges or spans.

II. It is also noteworthy that in Indiana where the highest proportion of high school students took the SAT tests:

annual parental (mean) income was lowest
estimated parental (mean) contribution towards applicants' education was lowest
annual parental (mean) income and parental contribution toward education by applicants' SAT score averages were lowest
a higher proportion indicated their planned degree level to be two years and a smaller proportion planned graduate study (and a higher proportion were undecided).

NOTE: There is a direct relationship between parental income as well as parental contribution, with SAT scores: the lower the income/contribution, the lower the score.

III. The premise developed on SAT score data that the higher the proportion of high school students in a given population taking the college (admissions) test, the lower their mean scores will be, is supported by ACTP* results as well. In that case the proportion of Indiana students taking the tests was lower, but their test scores were (statistically) significantly higher for all subjects and composite scores. (See Attachment III.)

NOTE: The statistical correlations in this study indicate the relationship between a) the proportion of estimated college-bound students within a given population (e.g., state) who take the standardized admissions tests, and b) the average score, within the state, of those students on the tests. Because the correlations are all very high negative values, it is clear that large proportions taking a test are closely related to low average scores achieved on the test.

*American College Testing Program

I. TEST SCORES

TABLE 1. SAT SCORES AND PERCENTAGE OF ESTIMATED COLLEGE-BOUND STUDENTS TAKING TESTS*
(Mean Test Scores)

	INDIANA N=37,262			MIDWESTERN N=130,200			NATIONAL N=991,514		
	VERBAL	MATH	%*	VERBAL	MATH	%*	VERBAL	MATH	%*
Mean	407	450	106%	446	493	28.3%	424	466	64%
Std. Dev.	99	110		108	118		110	117	

Students taking tests as % of estimated college-bound population

HIGHLIGHTS (Table 1)

The verbal and math scores of Indiana's students are lower than both the National and Midwestern Regional mean scores: however, the estimated proportion of Indiana's college-bound students who took the tests is much higher. An analyses of verbal and math SAT scores reveal that these differences between the three geographical regions are statistically significant. Correlational analyses were applied in order to attempt to account for these differences. Very high negative values were found indicating that large proportions of students taking the tests are closely related to low average scores on the test. (See Attachment II for comparative data and see Attachment IV for details of statistical analysis.)

NOTE: Attachment II on pages 23 thru 27 present comparative data on the relationships of SAT scores and estimated percentage of college-bound students. Attachment III presents comparable relationships data for the ACTP tests.

TABLE 2
SAT SCORES BY SEX
(Mean Test Scores)

	INDIANA N=37,262				MIDWESTERN N=130,200				NATIONAL N=991,514			
	VERBAL		MATH		VERBAL		MATH		VERBAL		MATH	
	M	F	M	F	M	F	M	F	M	F	M	F
Mean	411	404	476	428	451	441	520	467	428	420	491	443
Std. Dev.	99	100	113	103	108	109	119	111	110	110	120	109

TABLE 3
TEST OF STANDARD WRITTEN ENGLISH (TSWE) SCORES
(Mean Test Scores)

	INDIANA N=37,262			MIDWESTERN N=130,200			NATIONAL N=991,514		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mean	39.8	41.5	40.7	43.8	45.0	44.4	41.7	43.0	42.4
Std. Dev.	10.5	10.3	10.4	10.6	10.3	10.5	11.0	10.8	11.0

HIGHLIGHTS (Tables 2 and 3)

Males had higher verbal and math SAT scores than did females in all three geographic groups. (The number of women taking the tests exceeded that of men.) However, women excelled on the Test of Standard Written English.

NOTE: See Attachment 1 for the Summary Highlights taken from the National Report on College-Bound Seniors, 1980.

II. HIGH SCHOOL RECORD

TABLE 4
SELF-REPORTED GRADES BY SUBJECT
(Mean Grade)*

Locale	English	Math	Foreign Languages	Bio-Sciences	Physical Sciences	Social Studies
IND**	3.10	2.73	3.03	3.05	2.91	3.21
MW	3.23	2.91	3.13	3.17	3.06	3.32
NATL	3.13	2.84	3.01	3.05	2.94	3.22

*A=4.0 B=3.0 C=2.0 D=1.0 F=0
**IND is Indiana, MW is Midwestern Region, and NATL is National.

NOTE: Females reported higher grades in all subjects except in math and physical science where results were very close or slightly in favor of males. (Sex data are not shown in above table.)

HIGHLIGHTS

In general all students reported their highest grades to be in the social studies, followed by English and bio-sciences; the lowest grades were reported for math and physical sciences.

Students in the Midwestern Region reported higher grades in every subject (than did Indiana students or National mean scores).

Indiana students reported lower grades in every subject except in two cases: (1) foreign languages--where Indiana grades were slightly higher than the National average (but below Midwestern), and (2) in bio-sciences where Indiana was the same as the National average but again was below the Midwestern grades.

(See TABLE 6 for Comparisons of Grades vs. Number of Years' Study.)

NOTE: An examination of the detailed statistics by individual grade in the Board report reveals that the percentage distribution of Indiana students is somewhat more evenly divided across all grades; grades are not skewed as sharply to the high side (i.e., A and B) as are those of the Midwestern Region and Nationally. This undoubtedly reflects the greater proportion of Indiana high school students who take the ATP tests. (See Table 1 and Attachment II.) (The specific grade details are available in the three College Board reports identified on the first page of this monograph.)

TABLE 5
NUMBER OF YEARS OF STUDY BY SUBJECT
(Mean Number of Years)

Locale	English	Math	Foreign Languages	Bio-Sciences	Physical Sciences	Social Studies
IND	3.84	3.10	1.71	1.35	1.31	2.82
MW	3.97	3.44	2.07	1.37	1.73	3.01
NATL	3.96	3.47	2.17	1.40	1.77	3.20

NOTE: Females reported more years of study in English, foreign languages, and bio-sciences, while males reported more years' study in math, physical sciences and social studies. (Sex data are not shown in table above.)

HIGHLIGHTS

The most years of study were reported for English, followed by math, then social studies. The least time was spent in the bio-sciences and physical sciences.

Indiana students reported fewer years' study in every subject. *(Note: previous research shows a gradual decrease in the proportion of Indiana students who are enrolled in college prep. type programs, with an increase in vocational education and general education; this may be one reason for the differences.)* The Midwestern Region as a whole was lower in years of study in these subjects than the National averages.

(See TABLE 6 for Comparisons of Grades vs. Number of Years' Study.)

NOTE: An examination of the detailed data in the three College Board reports identified on the first page of this monograph, reveals that the distribution of percentages of Indiana students' numbers of years of study by subject, are somewhat more evenly spread from one to five years of study; the proportion of Midwestern and National students who have studied certain subjects for four years or more exceed those of Indiana students in all cases. This is undoubtedly due, at least in part, to the larger proportions of Indiana high school seniors who take these tests.

TABLE 6
COMPARISONS OF RANK ORDERS OF
SELF-REPORTED GRADES FOR ALL HIGH SCHOOL STUDENTS
VS
NUMBER OF YEARS OF STUDY--BY SUBJECT

Subject	RANK ORDERS: Reported Grade	No. of Years of Study
Social Studies	1st (Highest grades)	3rd
English	2nd	1st (Most years)
Bio-Sciences	3rd	6th (Least years)
Foreign Languages	4th	4th
Physical Sciences	5th	5th
Math	6th (Lowest grades)	2nd

HIGHLIGHTS

English, foreign languages and physical sciences had the closest rank relationships between reported grades and number of years of study.

The greatest misalignment of rank orders is in mathematics, where although math ranks second highest in number of years studied, the grades are ranked last. On the opposite side, the highest grades are reported in the social sciences which ranked only third in number of years studied: Bio-science grades were also favored, ranking 3rd in reported grade, but 6th in number of years studied.

TABLE 7
SELF-REPORTED CLASS RANK

Σ % With This Rank or Better	Top Tenth	Second Tenth	Second Fifth	Third Fifth	Fourth Fifth	Lowest Fifth	Median Percentile Rank
INDIANA	21.3%	21.3%	26.5%	27.1%	3.4%	0.5%	74.3%
MIDWESTERN	28.5%	22.8%	24.5%	21.4%	2.6%	0.4%	80.4%
NATIONAL	21.6%	22.2%	26.8%	25.9%	3.0%	0.5%	75.3%

HIGHLIGHTS

The first observation of course is that the better high school academic achievers are taking the College Board tests. This is apparent when between 21 and 28% of the students taking the tests are in the top 10% of their class rankings (more than 70% of those taking the test are in the upper 40% of their class ranking). Conversely, fewer than one-half of one percent taking the test are in the lowest 40% of their class ranking.

The Midwestern Region reports the largest proportion of students in the higher class rankings (they also achieved the highest SAT scores): the National averages were next highest. Indiana reported the lowest proportions of students in the higher class rankings--and they achieved the lowest SAT scores.

Consistent with the above, the median percentile rank of Midwestern students was the highest and Indiana the lowest.

NOTE: See Table 9 for comparisons of class rankings, SAT scores, grade averages, and percent of estimated college-bound population taking the tests.

TABLE 8

ESTIMATED HIGH SCHOOL GRADE POINT AVERAGE

(Mean Grade)*

A B C D

Locale	3.5-4.0	3.0-3.49	2.5-2.99	2.0-2.49	<2.0	Total
INDIANA	26.9%	28.8%	24.5%	15.5%	4.4%	100%
MIDWESTERN	35.0%	29.5%	21.0%	11.4%	3.0%	100%
NATIONAL	27.7%	30.5%	24.4%	13.8%	3.7%	100%

*A=4, B=3, C=2, D=1

HIGHLIGHTS

The large majority of students taking the SAT tests had a grade point average at or above the "B" (3.0) level. The Midwestern Region students were highest (64.5% @ B or better), National average was next at 58.2%, and 55.7% of the Indiana students were at the B average or higher.

Nearly 20% of the Indiana students reported their grade point average to be below 2.5 (C+)...this compares with 17½% Nationally and only 14.4% for the Midwestern Region.

NOTE: See Table 9 for comparisons of high school grade point averages, SAT scores, high school rank, and perceniage of estimated college-bound population taking the tests.

NOTE: An examination of the details in the three College Board reports shows that high school grade point averages for the Midwestern Region and Nationally are skewed to the high side. Indiana students' grades were somewhat more evenly distributed--which may reflect the higher proportions of Indiana high school students who take the tests.

TABLE 9

RELATIONSHIPS BETWEEN RELATIVE RANKINGS OF SAT SCORES, GRADE AVERAGES, HIGH SCHOOL RANK, AND THE PERCENT OF ESTIMATED COLLEGE-BOUND POPULATION TAKING THE SAT TEST

ITEM	MIDWESTERN			NATIONAL $\bar{x}$			INDIANA		
	HIGH	MID	LOW*	HIGH	MID	LOW	HIGH	MID	LOW
SAT SCORES	X				X				X
GRADE AVERAGE	X				X				X
H. SCHOOL RANK	X				X				X
% TAKING TEST			X		X		X		

*Represents the relative standing or ranking: highest, next highest (middle), and lowest.

HIGHLIGHTS

There is a noteworthy consistency in the SAT scores, grade averages, and high school ranks for each region; however, there is an inverse relationship of the ranking of these items to the proportion of estimated college-bound population taking the tests.

It is very apparent that if SAT scores, high school grade averages, and high school ranks are high, the percentages of students taking the test are low--and vice versa.

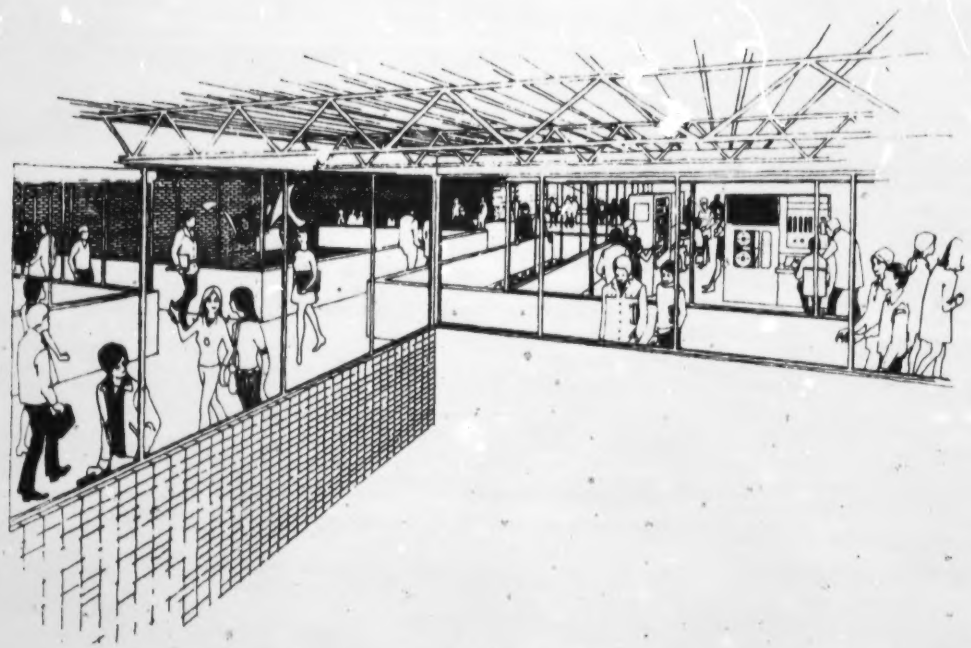
TABLE 10
TYPE OF HIGH SCHOOL

	Indiana N=35,903	Midwestern N=130,868	National N=935,159
Public	89.9%	81.0%	81.8%
Other	10.1%	19.0%	18.2%
	100 %	100 %	100 %

HIGHLIGHTS

Nearly 90 percent of the Indiana students taking the College Board SAT tests were enrolled in public high schools. This contrasted sharply from the Midwestern Region and the Nation where the non-public school proportion was nearly twice as great.

NOTE: There was no way the grades and scores data could be associated with the type of high school.



III. SOCIOECONOMIC CHARACTERISTICS

TABLE 11
ETHNIC BACKGROUND
(% Distribution)

Locale	Amer. Indian	Black	Mexican American	Oriental	Puerto Rican	Other	White	Total Minority Students
IND.	0.4%	6.6%	0.8%	0.6%	0.4%	0.6%	90.7%	9.3%
MW	0.4%	7.2%	0.5%	1.3%	0.3%	1.0%	89.3%	10.7%
NATL	0.5%	9.1%	1.7%	3.2%	1.1%	2.3%	82.1%	17.9%

**INDIANA N=35,105, MIDWESTERN REGION N=128,385, NATIONAL N=911,397*

HIGHLIGHTS

About 90% of the students in both Indiana and in the Midwestern Region who took the SAT tests are white; this is about 8% higher than the 82% white for the Nation as a whole.

Only 9.3% of the Indiana students taking the tests were members of minority groups; this compares with 10.7% of all Midwesterners and nearly 18% Nationally.

The largest minority group is black (6.6% in Indiana, 7.2% in the Midwest, and 9.1% Nationally); the smallest minority group is the American Indian at about 1/2 of one percent. The greatest range differentials are for blacks in Indiana vs. National (Δ of 2.5%), and the Oriental group (Indiana 0.6% vs. 3.2% Nationally, a difference of 2.6%).

TABLE 12
ETHNIC BACKGROUND - BY SEX
WITH DIFFERENCES BETWEEN
BLACK, ORIENTAL, AND WHITE STUDENTS

	INDIANA			MIDWESTERN			NATIONAL		
	BL	OR	WH	BL	OR	WH	BL	OR	WH
MALE	6.0	0.7	91.1	5.8	1.4	90.4	7.8	3.4	83.0
FEMALE	7.1	0.5	90.3	8.6	1.1	88.3	10.4	3.0	81.3
ALL MINORITIES	Male		8.9%	Male		9.6%	Male		17.0%
	Female		9.7%	Female		11.7%	Female		18.7%

		Black	Oriental	White
N's for INDIANA	Males =	951	114	14,519
	Females =	1,371	91	17,309
MIDWESTERN	Males =	3,645	854	56,383
	Females =	5,655	758	58,307
NATIONAL	Males =	33,327	14,517	356,998
	Females =	49,994	14,372	391,368

HIGHLIGHTS

Overall, more minority group females than males took the SAT tests in all three geographic regions--the one exception was in the Oriental group, where more males took the tests than did females.

The percentages vary by region; there is a smaller proportion of minorities in Indiana and the Midwestern Region than the Nation.

The greatest differential between sexes was in the Midwestern Region where there were 2.8% more black females than males--there was a 2.2% difference Nationally and only a 1.1% difference in Indiana.

TABLE 13
ANNUAL PARENTAL INCOME BY ETHNIC GROUP

Ethnic Group	Indiana N=31,516 $ Income Mean	Indiana N=31,516 $ Income Median	Midwestern N=114,290 $ Income Mean	Midwestern N=114,290 $ Income Median	National N=797,018 $ Income Mean	National N=797,018 $ Income Median
Am. Indian	22,300	19,600	25,000	20,400	22,100	17,800
Black	17,400	14,200	18,400	14,500	15,100	11,600
Mex. Amer.	21,700	19,100	23,300	19,200	18,400	15,300
Oriental	32,700	23,700	35,900	26,500	25,400	19,400
P. Rican	21,700	20,100	26,500	21,100	16,500	11,700
White	28,100	22,900	33,800	26,300	30,500	23,900
Other	22,900	19,000	31,900	24,300	23,100	17,100
Unknown	24,800	21,200	30,100	23,800	26,300	20,700
All	27,200	22,300	32,500	25,500	28,300	22,200

HIGHLIGHTS

The annual parental income was highest in the Midwestern Region; Indiana was closer to the National averages than the Midwestern averages.

The lowest ethnic group parental income was for blacks, the next lowest was Puerto Ricans, then Mexican Americans. The highest parental income was for whites, followed by Oriental, then American Indian.

The largest difference between mean and median parental income is reported for the Midwestern Region (Δ is $7,000); this is followed by the National difference of $6,100 and only $4,900 for Indiana.

(Other and Unknown are not included in above discussion.)

TABLE 14

ESTIMATED PARENTAL CONTRIBUTION TOWARDS APPLICANTS' EDUCATION

Ethnic Group	Indiana N=36,281 $ Contribution Mean	Indiana N=36,281 $ Contribution Median	Midwestern N=132,099 $ Contribution Mean	Midwestern N=132,099 $ Contribution Median	National N=948,738 $ Contribution Mean	National N=948,738 $ Contribution Median
Am. Indian	1,590	700	1,830	770	1,500	440
Black	1,070	70	1,190	120	750	0
Mex. Amer.	1,190	420	1,420	480	900	50
Oriental	2,640	950	3,270	1,360	1,850	520
P. Rican	1,420	490	2,210	610	870	0
White	2,260	1,050	2,980	1,530	2,590	1,160
Other	1,600	440	2,610	1,060	1,610	330
Unknown	1,810	830	2,480	1,080	2,020	730
All	2,160	960	2,830	1,380	2,320	920

HIGHLIGHTS

The highest parental contributions toward applicants' education was made in the Midwestern Region; Indiana and the National contributions were fairly close to each other, but were at lower levels. This ranking is consistent with annual parental income.

The lowest ethnic group parental contribution for education was for blacks, the next lowest contribution was for Puerto Ricans, then Mexican Americans. The highest parental contribution was for whites, followed by Oriental, then American Indian.

The largest difference between the mean and median parental contribution is reported for the Midwestern Region (Δ $1,450); this is followed by a National difference of $1,400 and $1,200 for Indiana. This sequence is parallel to annual parental incomes reported in Table 13.

(Other and Unknown are not included in the above discussion.)

*There is a direct relationship between parental income and parental contribution towards applicants' education. The overall rank order by ethnic group, from highest to lowest parental income and contribution levels, is:

1. White
2. Oriental
3. American Indian
4. Mexican American
5. Puerto Rico
6. Black

TABLE 15
ANNUAL PARENTAL INCOME BY APPLICANTS' SAT SCORE AVERAGES

SAT Average	Indiana N=30,889 $ Income		Midwestern N=112,477 $ Income		National N=780,989 $ Income	
	Mean	Median	Mean	Median	Mean	Median
<350	23,100	19,400	25,200	19,900	20,700	16,500
350-399	26,500	22,100	30,700	24,100	26,300	20,700
400-449	27,700	22,600	32,600	25,200	28,400	22,400
450-499	28,700	23,300	34,100	26,400	30,200	23,700
500-549	30,100	23,900	35,000	27,100	31,700	24,900
550-599	30,900	24,900	35,100	28,000	33,200	26,100
600-649	30,600	24,900	35,900	28,300	34,800	27,400
>650	33,300	26,800	36,100	28,800	36,900	29,300
NO SAT	20,900	17,900	27,800	21,900	24,600	18,800
ALL	27,200	22,300	32,500	25,500	28,300	22,200

HIGHLIGHTS

At least three conclusions can be drawn from the data in Table 15. They are

1. There is a direct relationship between SAT scores and parental income: the higher the parental income (both mean and median) the higher the SAT average score of the applicant (with one minor exception, which is a slight inversion for Indiana mean income at the SAT 600-649 level).

2. Parental income is lower in Indiana than are the mean and median incomes for the Midwestern Region and National incomes; with the important exceptions of the low SAT scores Nationally ($\leq$449) at the lower income levels.

3. Parental incomes are higher in the Midwestern Region at all SAT levels except for $\geq$650.

NOTE: An examination of details in the three College Board reports identified on the first page of this monograph reveals a more even distribution of parental income in Indiana across all income groups and SAT score levels. This may again reflect the fact that a higher proportion of Indiana high school students take these tests.

TABLE 16
ESTIMATED PARENTAL CONTRIBUTION
TOWARDS APPLICANT'S EDUCATION
BY SAT AVERAGE

SAT Average	Indiana N=30,889 $ Contribution		Midwestern N=112,477 $ Contribution		National N=780,980 $ Contribution	
	Mean	Median	Mean	Median	Mean	Median
<350	1,620	600	1,890	640	1,360	280
350-399	2,080	910	2,550	1,140	2,010	750
400-449	2,180	970	2,800	1,340	2,290	920
450-499	2,390	1,040	3,010	1,520	2,530	1,080
500-549	2,530	1,170	3,120	1,640	2,740	1,310
550-599	2,650	1,360	3,190	1,740	2,980	1,510
600-649	2,500	1,300	3,280	1,810	3,210	1,710
>650	3,090	1,590	3,410	1,900	3,390	1,970
NO SAT	1,370	400	2,280	850	1,950	530
ALL	2,160	960	2,830	1,380	2,320	920

HIGHLIGHTS

At least three conclusions can be drawn from the data in Table 16. They are

1. There is a direct relationship between parental contribution and SAT score of students. The higher the parental contribution (both mean and median), the higher the SAT average score of the applicant. There was only one minor exception, a slight inversion for Indiana at the 600 SAT level.

2. Parental contributions toward the applicants' education are lower in Indiana than they are for the Midwestern Region and National averages, with the exceptions of ≤449 SAT scores Nationally.

3. The parental contributions made by parents in the Midwestern Region are well above the National averages with only one minor exception (i.e., ≥650 SAT level).

There is also a direct relationship between parental income (reported in Table 15 on preceding page) and the parental contribution towards an applicant's education.

IV. COLLEGE PLANS

TABLE 17
DEGREE-LEVEL GOALS
(Percent Distribution)

Planned Degree Level	Indiana N=35,417			Midwestern N=129,728			National N=923,507		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Two-Yr. Training Program	5.7%	6.8%	6.3%	2.4%	3.1%	2.7%	3.2%	3.4%	3.3%
Assoc. in Arts	2.4%	5.0%	3.8%	1.0%	2.3%	1.7%	1.5%	3.4%	2.5%
BA or BS Degree	31.1%	28.6%	29.7%	28.5%	32.8%	30.7%	30.3%	32.7%	31.6%
MA or MS Degree	21.3%	20.0%	20.6%	27.4%	24.5%	25.9%	26.2%	23.4%	24.8%
MD, PhD, Other Profess. Degree	13.6%	9.8%	11.6%	22.9%	17.8%	20.3%	19.5%	15.6%	17.5%
Undecided	25.9%	29.7%	28.0%	17.9%	19.4%	18.7%	19.3%	21.4%	20.4%
	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
2 Yr. Program or Degree	8.1%	11.8%	10.1%	3.4%	5.4%	4.4%	4.7%	6.8%	5.8%
Graduate Study	34.9%	29.9%	32.2%	50.2%	42.3%	46.2%	45.7%	39.0%	42.2%

HIGHLIGHTS

There are great differences in the degree level goals of Indiana students who take the College Boards as compared with those in the Midwestern Region or the Nation at large. (In fact, Midwesterners' goals as a whole are more similar to the National averages than they are to Indiana.)

Important differences include the following:

1. More than twice as many (proportionately) Indiana students than Midwesterners as a whole indicate their goals to be a two-year training or degree program (10.1% vs. 4.4%): Indiana is also much higher than the National percentage in this regard (10.1% vs. 5.8%). In all three regional groups, proportionately more females than males have chosen this two-year level goal.

2. At the BA or BS degree goal level, fewer than two percentage points separate the three main groups (29.7% for Indiana, 30.7% for the Midwestern Region, and 31.6% National). In Indiana, proportionately more males than females have the baccalaureate goal--which is reverse the situations in the Midwest and the Nation.

3. Whereas Indiana is highest at the two-year program goal level, it is lowest at the graduate level ($\geq$ 10% Δ). In all cases, proportionately more males than females reported graduate level study goals.

A very important finding is that 28% of the Indiana students are undecided as to their degree level goals (nearly 30% of the female students). This compares with only 18.7% undecided in the Midwestern Region and 20.4% Nationally.

TABLE 18
PLANS TO ASK COLLEGE FOR SPECIAL ASSISTANCE*

Type of Assistance	Indiana N=36,281	Midwestern N=132,099	National N=948,738
Educational Counseling	34.8%	37.2%	34.3%
Voc/Career Counseling	27.4%	28.4%	26.2%
Math Skills	16.5%	15.7%	16.5%
Reading Skills	11.3%	12.2%	11.7%
Writing Skills	12.3%	13.3%	13.8%
Study Skills	23.5%	21.8%	22.6%
Part-Time Work	37.1%	36.9%	38.9%
Personal Counseling	3.4%	3.8%	3.7%
% Seeking Assistance	80.9%	79.7%	80.4%

*Student could indicate more than one choice.

HIGHLIGHTS

An examination of this table shows a striking similarity between all three geographic groups in the types of assistance needed. The highest proportions of students report they need assistance in getting part-time work (~37%), as well as educational and career counseling (~35%). Nearly 22% said they needed assistance in developing study skills. It is also noteworthy about 16% plan to ask for assistance related to math skills, 13% need writing skills and 12% need reading skills help.

Fewer than four percent report they plan to ask colleges for personal counseling assistance.

TABLE 19
ADVANCED PLACEMENT PLANS

Subject	Indiana N=17,902	Midwestern N=70,947	National N=480,382
English	26.1%	27.2%	23.1%
Math	19.0%	23.2%	20.5%
For. Lang.	14.1%	15.0%	10.6%
Bio-Sci.	6.8%	8.4%	8.9%
Phys. Sci.	8.3%	11.1%	9.5%
Soc. Studies	10.7%	13.4%	12.7%
Art & Music	7.7%	6.8%	6.6%

HIGHLIGHTS

A higher percentage of students from the Midwestern states than from Indiana plan to apply for advanced placement in all subjects, with the one exception of art and music. The greatest spread is in math (19% for Indiana vs. 23.2% Midwestern).

A higher percentage of Indiana students, when compared with the National group, plan to apply for advanced placement in three subjects; English, foreign languages, and art & music; National percentages are larger for all other subjects.

In general, about half of the students who take honors courses in English, math, and foreign languages plan to seek advanced placement in that subject; between 25% and 40% of the students taking honors courses in the other subjects plan to seek related advanced placement. (These details not shown in Table 21.)

NOTE: The above data include both students who took an honors course as well as those who didn't. As expected, a much higher proportion of the honors course participants planned to request advanced placement.

HIGHLIGHTS (TABLE 20)

There is a remarkable similarity in the rank orders of intended areas of study--across the three geographic regions. The five most popular choices are (1) Business & Commerce, (2) Health & Medical, (3) Engineering, (4) and (5) Social Sciences and Education. It is interesting to note that Business & Commerce, Health & Medical, Social Sciences, and Communications rank about the same for both sexes. However, females favor Education, Art, and Psychology, while males favor Engineering, Computer areas, Architecture, Agriculture and the Physical Sciences.

It is noteworthy that more than one-third of all students have chosen Business & Commerce (~20%) and Health & Medical (~15%). The third most popular choice is Engineering at slightly over 11% (however, nearly 20% of all males select this area of study and only about 3% of the females do). The surge of females into the business area is a rather recent phenomenon. (See rank order table below.)

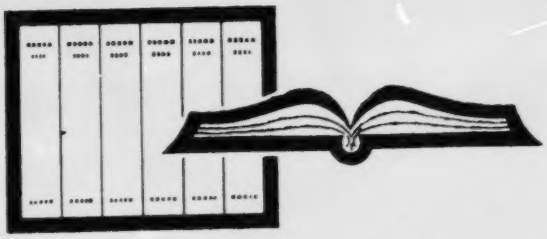
RANK ORDERS OF TEN MOST POPULAR
INTENDED AREAS OF STUDY -- 1ST CHOICE

Area	Indiana N=34,821			Midwestern N=127,901			National 935,159		
	M	F	Σ	M	F	Σ	M	F	Σ
Business and Commerce	1	1	1	2	2	1	2	2	1
Health and Medical	3	2	2	3	1	2	3	1	2
Engineering	2	10	3	1	9	3	1	11	3
Education	6	3	4	11	3	5	11	3	5
Social Sciences	4	5	5	4	4	4	4	4	4
Art	11	4	6	12	5	7	12	5	8
Computer Science/Systems Analysts	5	7	7	5	10	7	5	9	7
Undecided	7	6	8	6	7	6	6	7	6
Communications	8	9	9	8	8	7	8	8	9
Psychology	19	8	10	16	6	11	16	6	10
Architecture/Environmental Design	9	22	15	9	17	13	9	21	13
Agriculture	10	18	12	13	17	16	13	16	14
Physical Sciences	13	21	16	7	15	12	9	16	12
Biological Sciences	13	12	12	10	10	10	7	10	11

See Table 20 for SAT scores by intended fields of study.

TABLE 20
INTENDED AREAS OF STUDY - FIRST CHOICE 1980

	INDIANA N= 34,821			MIDWESTERN N= 127,901			NATIONAL N= 906,259		
N=	15,713	19,108		61,997	65,904		426,254	480,005	
	Male %	Female %	Total %	Male %	Female %	Total %	Male %	Female %	Total %
Arts and Humanities	11.4	13.0	12.3	9.8	13.9	11.9	10.1	14.2	12.3
Architecture/Environmental Design	3.6	0.6	1.9	3.2	1.0	2.1	3.3	0.9	2.0
Art	2.9	5.8	4.5	2.0	5.2	3.7	2.3	5.8	4.1
English/Literature	0.8	1.4	1.1	1.0	2.1	1.5	0.9	2.0	1.5
Foreign Languages	0.3	1.3	0.9	0.3	1.4	0.8	0.3	1.4	0.9
Music	2.3	2.1	2.2	1.7	2.1	1.9	1.9	1.8	1.8
Philosophy and Religion	0.8	0.4	0.6	0.7	0.3	0.5	0.6	0.3	0.4
Theater Arts	0.9	1.4	1.2	0.9	1.8	1.3	0.9	2.0	1.5
Biological Sciences and Related Areas	15.1	24.1	20.1	16.6	25.5	21.2	16.5	24.5	20.7
Agriculture	3.3	1.1	2.1	1.8	1.0	1.4	2.1	1.1	1.6
Biological Sciences	2.4	1.9	2.1	3.1	3.1	3.1	3.6	3.3	3.4
Forestry/Conservation	1.7	0.7	1.1	1.2	0.6	0.9	1.6	0.6	1.0
Health and Medical	7.8	20.5	14.7	10.4	20.8	15.8	9.2	19.5	14.7
Business, Commerce, and Communications	23.6	25.4	24.6	22.7	22.5	22.6	21.9	22.6	22.3
Business and Commerce	19.7	22.1	21.0	19.3	18.5	18.9	18.5	18.8	18.6
Communications	3.9	3.3	3.6	3.4	4.0	3.7	3.4	3.8	3.6
Physical Sciences and Related Areas	28.1	7.5	16.8	31.1	9.1	19.8	29.9	8.5	18.6
Computer Science/Systems Analysis	5.3	3.8	4.4	4.4	3.1	3.7	4.9	3.5	4.2
Engineering	19.1	2.2	9.9	21.5	3.8	12.4	20.4	2.9	11.
Mathematics	1.3	0.8	1.0	1.4	1.0	1.2	1.2	1.0	1.1
Physical Sciences	2.4	0.7	1.5	3.8	1.2	2.5	3.3	1.1	2.1
Social Sciences and Related Areas	13.2	23.6	18.9	13.3	23.2	18.4	14.3	23.8	19.1
Education	4.3	12.4	8.7	2.2	8.9	5.7	2.8	9.0	6.1
Ethnic Studies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geography	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
History and Cultures	0.9	0.3	0.6	0.7	0.4	0.6	0.8	0.4	0.6
Home Economics	0.1	1.3	0.7	0.0	1.2	0.6	0.1	1.1	0.6
Library Science	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Military Science	0.9	0.1	0.5	1.1	0.1	0.6	1.4	0.1	0.7
Psychology	1.1	3.7	2.5	1.3	4.7	3.0	1.5	5.2	3.5
Social Sciences	5.8	5.7	5.7	7.8	7.8	7.8	7.7	7.8	7.8
Miscellaneous	8.6	6.3	7.3	6.4	5.8	6.1	7.2	6.4	6.8
Other	1.7	1.1	1.4	1.1	0.8	0.9	1.2	1.0	1.1
Trade and Vocational	2.7	1.4	2.0	1.2	0.7	1.0	1.3	0.9	1.1
Undecided	4.2	3.9	4.0	4.1	4.3	4.2	4.7	4.5	4.6



HIGHLIGHTS (TABLE 21)

There is a remarkable similarity in the rank orders of SAT Verbal and Math (mean) scores by intended major areas of study across all three geographic areas. The rank order comparisons below illustrate that fact:

RANK ORDERS OF SAT MEAN SCORES

Area of Study	Indiana		Midwestern		National	
	Verbal	Math	Verbal	Math	Verbal	Math
Physical Sciences & Related Areas	1st	1st	1st	1st	1st	1st
Bio-Sciences & Related Areas	2nd	2nd	2nd	2nd	3rd*	2nd
Arts and Humanities	3rd	3-4th	3rd	3-4th	2nd*	3rd
Social Sciences & Related Areas	4th	3-4th	4th	3-4th	4th	4th
Business, Commerce & Communications	5th	5th	5th	5th	5th	5th

**Only 1 point separates the National 2nd and 3rd Verbal rankings.*

It should also be noted in Table 20 (which is consistent with preceding data) Indiana's SAT scores are lower than those in the Midwestern Region and the Nation.

In comparing the differences between specific fields of study by verbal and math scores in Indiana, one finds

1. Students with the highest math scores chose mathematics--score of 566, physical science--541, engineering--521, computer science--490, and biological sciences at 489.

2. The few fields where verbal scores are higher than math scores include foreign languages, music, theater arts, and library science. Verbal and math scores were the same for those students choosing communications.

TABLE 21
SAT SCORES BY
INTENDENT AREAS OF STUDY - 1980

	INDIANA		MIDWESTERN		NATIONAL	
	34,821 Total		127,901 Total		906,289 Total	
	SAT Verbal Mean	SAT Math Mean	SAT Verbal Mean	SAT Math Mean	SAT Verbal Mean	SAT Math Mean
Arts and Humanities	415	436	453	472	434	452
Architecture/Environmental Design	404	482	429	511	415	491
Art	385	406	413	431	402	419
English/Literature	483	451	528	498	507	481
Foreign Languages	464	463	498	499	472	475
Music	427	442	461	478	436	455
Philosophy and Religion	434	465	479	505	460	4 7
Theater Arts	417	414	460	459	438	436
Biological Sciences and Related Areas	418	459	455	500	433	4?2
Agriculture	391	440	414	455	403	43?
Biological Sciences	454	489	488	527	469	506
Forestry/Conservation	406	438	429	466	416	45
Health and Medical	417	460	453	501	429	470
Business, Commerce, and Communications	396	436	424	469	406	446
Business and Commerce	389	436	417	470	399	446
Communications	436	436	459	461	444	446
Physical Sciences and Related Areas	430	518	468	560	444	5.2
Computer Science/Systems Analysis	415	490	445	527	417	496
Engineering	429	521	465	562	444	535
Mathematics	437	506	476	606	455	577
Physical Sciences	479	541	517	581	495	560
Social Sciences and Related Areas	409	432	450	472	429	449
Education	388	416	407	437	389	418
Ethnic Studies	-	-	465	437	378	48?
Geography	353	381	453	494	424	47?
History and Cultures	436	439	493	490	481	474
Home Economics	359	386	394	423	385	414
Library Science	456	440	519	501	474	444
Military Science	416	457	452	501	434	4 8
Psychology	424	435	452	464	434	4?7
Social Sciences	436	457	480	500	456	4?3
Miscellaneous	395	438	438	481	419	459
Other	382	422	410	453	397	4?1
Trade and Vocational	354	399	362	408	352	394
Undecided	418	461	460	503	440	481

TABLE 22
HOUSING PREFERENCES

Plan to Live	Indiana N=34,761			Midwestern N=127,462			National N=907,959		
	15,723 Males	19,038 Females	Total	61,813 Males	65,649 Females	Total	427,194 Males	480,765 Females	Total
At Home	17.5%	22.5%	20.3%	15.2%	17.1%	16.2%	22.8%	26.3%	24.6%
Single-Sex Dormitory	24.0	31.4	28.0	19.3	30.7	25.2	16.7	27.2	22.3
Coed Dorm	35.7	28.5	31.8	45.5	37.2	41.2	38.8	30.4	34.4
Fraternity or Sorority	8.1	6.5	7.2	7.2	6.6	6.9	4.5	3.9	4.2
On-Campus Apartment	8.7	5.6	7.0	7.9	4.8	6.3	9.9	6.7	8.2
Off-Campus Apartment	6.0	5.5	5.7	4.8	3.6	4.2	7.4	5.6	6.4
	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

HIGHLIGHTS

The majority of students prefer to live in a campus dormitory (males preferring coed, females preferring single-sex dorms).

Indiana and Midwestern students prefer to live in fraternity or sorority housing in greater proportions than do the National group; whereas a larger percentage of the National group preferred to live at home (particularly females).

The least popular choice for both Indiana and Midwestern Region students was off-campus apartments; however, the least popular Nationally was fraternity or sorority.

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Includes:

TABLE 1: College Board Trend Data: Admissions Testing Program, College-Bound Seniors; Indiana and National. 1971-72 thru 1979-80. 23

TABLE 2: Admission Testing Program Results: Midwestern States and Nation, with Estimated Proportions of College-Bound Students. 1979-1980. 24

FIGURE 1: Comparison of 1979-80 SAT Verbal and Math Score Averages for Midwestern States and the Nation. 26

FIGURE 2: Comparison of 1979-80 PSAT/NMSQT Verbal and Math Score Averages for Midwestern States and the Nation. 27

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Statistical Analysis of Table 1 SAT Test Scores (from page 1) 30

ATTACHMENT I

National Report

College-Bound Seniors, 1980

HIGHLIGHTS

- The number of women taking the Scholastic Aptitude Test (SAT) exceeded that of men for the sixth consecutive year.
- Business and commerce was the most popular area of intended college study. The larger part of this increase came from a dramatic rise in women's interest, which has increased almost three times since 1973 and now exceeds that of men.
- Interest in education declined again, sustaining a trend begun in 1973.
- The average SAT scores of the 1980 seniors for the verbal section declined 3 points from 427 in 1979 to 424; the mathematical scores declined 1 point from 467 to 466. The average scores for both sections are at their lowest level since these reports were first prepared in 1972.
- Men had higher SAT scores, both verbal and mathematical, but women continued to excel on the Test of Standard Written English (TSWE).
- The average TSWE score has declined each year since the test's introduction in 1975, more abruptly for women than men.
- The high school grade point average in academic subjects was 3.06 or B. The number of academic courses taken averaged 16.
- Nearly three-fourths of the students ranked in the highest two-fifths of their graduating class.
- Students took more courses in mathematics and physical sciences than ever before, but their study of foreign languages fell to an all-time low. The numbers of years of study in mathematics by women increased significantly for the second consecutive year.
- Despite the increase in the number of years mathematics is studied, scores on the SAT-mathematical section and the mathematical Achievement Tests declined.
- The percentage of ethnic minority students rose for the fifth consecutive year to an all-time high of 17.9 percent.
- The median estimated parental contribution toward college expenses was $920. About 8 in 10 families cannot contribute fully to the costs of education at public four-year colleges with average annual expense budgets of $3,049. About 9 in 10 cannot contribute fully to the $6,082 annual costs at private four-year colleges.

Admissions Testing Program of the College Board
The College Board: 500 Davis St., Evanston, IL 60201.

ATTACHMENT II

TABLE 1
COLLEGE BOARD TREND DATA
ADMISSIONS TESTING PROGRAM
COLLEGE BOUND SENIORS
INDIANA AND NATIONAL

	SCHOLASTIC APTITUDE TESTS						CANDIDATES AS % OF ESTIMATED COLLEGE BOUND POPULATION	
	VERBAL		MATH		CANDIDATES			
YEAR	IND	NATL	IND	NATL	IND	NATIONAL	INDIANA	NATIONAL
1971-72	435	453	471	484	39,362	1,022,820		
1972-73	429	445	470	481	35,644	1,014,853		
1973-74	423	444	469	480	34,253	985,115		
1974-75	418	434	463	472	35,883	996,428	113%	66%
1975-76	415	431	460	472	37,329	999,829	115%	68%
1976-77	412	429	458	470	38,296	979,344	137%	67%
1977-78	413	429	457	468	37,357	989,307	114%	66%
1978-79	412	427	455	467	37,682	991,765	111%	63%
1979-80	407	424	450	466	37,262	991,514	106%	64%

PSAT/NMSQT*
COLLEGE BOUND JUNIORS
INDIANA AND NATIONAL

	PSAT/NMSQT						CANDIDATES AS % OF ESTIMATED COLLEGE BOUND POPULATION	
	VERBAL		MATH		CANDIDATES			
YEAR	IND	NATL	IND	NATL	IND	NATIONAL	INDIANA	NATIONAL
1971-72		42.2		45.2	30,857	1,072,309		
1972-73		42.7		46.9	30,699	1,039,387		
1973-74		41.8		45.5	30,369	1,052,523		
1974-75	41.4	41.6	46.6	45.9	30,133	1,079,769	95%	79%
1975-76	40.6	41.0	45.9	45.5	30,905	1,098,035	95%	69%
1976-77	39.9	40.5	45.4	45.0	31,684	1,106,128	113%	81%
1977-78	39.0	39.9	44.2	44.2	33,184	1,137,017	101%	81%
1978-79	39.3	40.6	44.4	44.8	32,519	1,120,931	96%	72%
1979-80	39.6	40.3	45.4	45.3	31,764	1,115,819	95%	79%

*Preliminary Scholastic Aptitude Tests and National Merit Scholarship Qualifying Test.

ATTACHMENT II

TABLE 2
COLLEGE BOARD ADMISSIONS TESTING PROGRAM RESULTS 1979-80
MIDWESTERN STATES AND NATIONAL

State	ATP Proportion of College Bound	SAT Verbal	SAT Math	State	PSAT/NMSQT Proportion of College Bound	PSAT Verbal	PSAT Math
Indiana	106%	407	450	Indiana	95%	39.6	45.4
Ohio	36%	455	499	Minnesota	82%	40.9	47.5
Michigan	32%	452	505	Michigan	80%	39.6	45.5
Missouri	25%	458	503	Ohio	76%	40.9	46.0
Illinois	25%	459	507	Missouri	71%	41.2	46.3
Wisconsin	19%	472	533	Illinois	69%	39.8	45.3
W. Virginia	18%	462	499	Nebraska	60%	40.6	47.5
Minnesota	13%	491	544	W. Virginia	53%	41.2	45.8
Nebraska	11%	484	539	Kansas	50%	41.4	47.5
Kansas	9%	497	538	Wisconsin	50%	42.6	49.6
S. Dakota	5%	500	551	S. Dakota	36%	43.1	49.7
Iowa	5%	508	554	Iowa	35%	44.2	51.3
N. Dakota	3%	499	549	N. Dakota	20%	43.1	50.1
NATIONAL	64%	424	466	NATIONAL	79%	40.3	45.3

NOTE: *ATP is the Admissions Testing Program of the College Board,*
SAT is the Scholastic Aptitude Test, a part of the ATP program, usually taken by high school seniors, and
PSAT/NMSQT is the Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test usually taken by high school juniors.

For statistical analysis and related findings, please see facing page (page 25).

ATTACHMENT II (CONTINUED)

STATISTICAL ANALYSIS OF COLLEGE BOARD ATP RESULTS 1979-80

(Data from Table 2 on facing page)

1. A correlation coefficient measures the strength of the relationship between two variables. A correlation can range from -1.00 to +1.00. If the correlation between two variables is near +1.00 then they have a very strong relationship, that is, if you know a subject's score on one of the variables you can predict very accurately that subject's score on the other variable. In addition, a positive correlation means that high values of one variable are paired up with high values on the other variable. On the other hand, if the correlation between two variables is near -1.00 then they have a very strong negative relationship; you can predict very accurately a subject's score on one variable from the other variable, but the variables are inversely related, so that a high value on one variable pairs up with a low value on the other variable. A correlation near 0.00 between two variables means that they seem unrelated; if you know a subject's score on one variable you cannot predict that subject's score on the other variable.

2. The correlations reported in this study indicate the relationship between: a) the proportion of college-bound students within a state who take the standardized admissions tests, and b) the average score, within the state, of those students on the tests. Because the correlations all are very high negative values it is clear that large proportions taking a test are closely related to low average scores on the test.

PEARSON CORRELATION COEFFICIENTS

	PROPATP	SAT-V	SAT-M	PSAT-V	PSAT-M
PROPATP		-.9104	-.8971		
PROPPSAT	.7182			-.8592	-.8118

KENDALL CORRELATION COEFFICIENTS

PROPATP		-.8572	-.7190		
PROPPSAT	.7182			-.7551	-.6316

SPEARMAN CORRELATION COEFFICIENTS

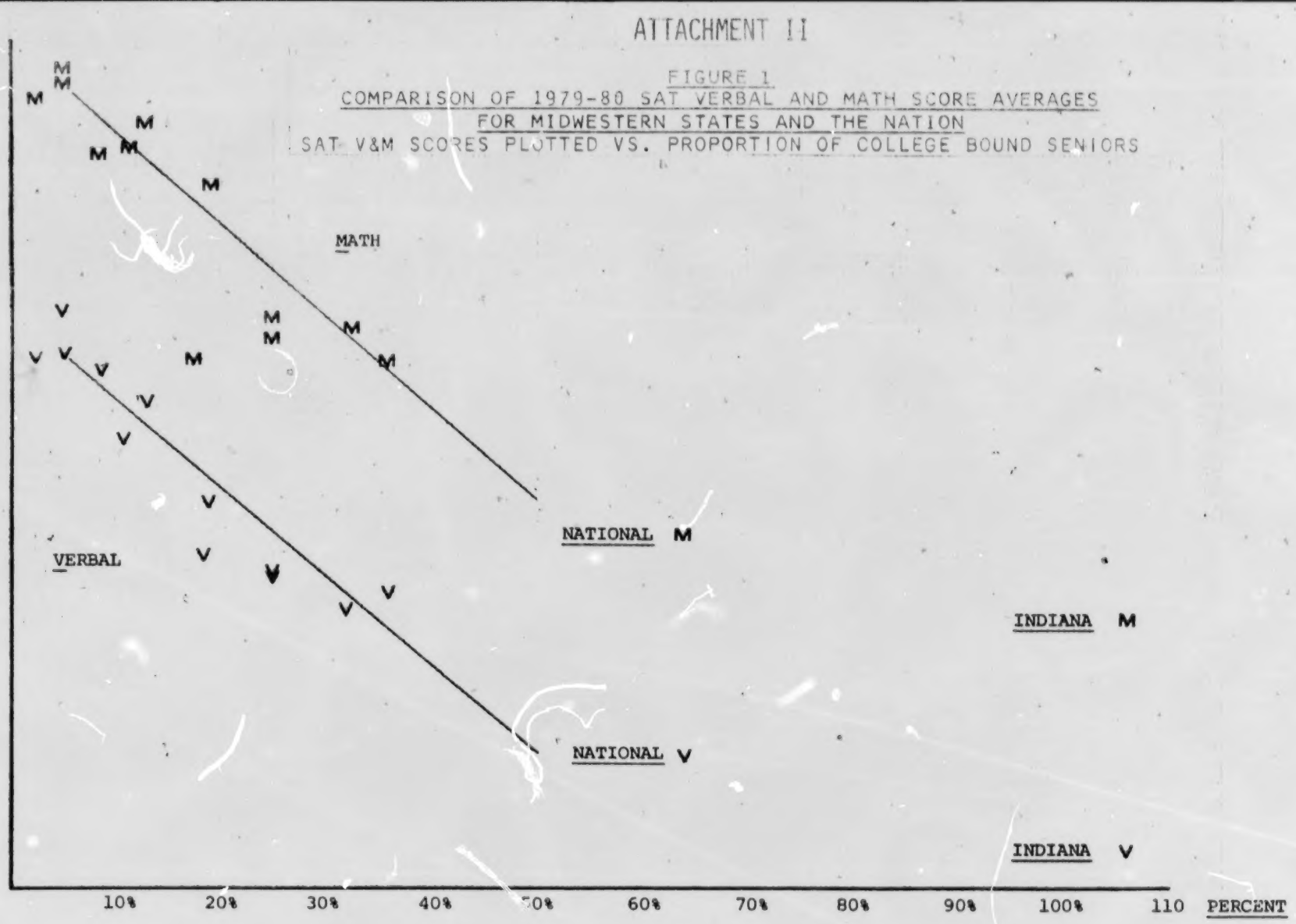
PROPATP		-.9642	-.8828		
PROPPSAT	.7182			-.8741	-.7635

PROPATP	Proportion of college-bound taking SAT
SAT-V	Average SAT-Verbal
SAT-M	Average SAT-Math
PROPPSAT	Proportion of college-bound taking PSAT
PSAT-V	Average PSAT-Verbal
PSAT-M	Average PSAT-Math

NOTE: *All correlation coefficients were significantly different from zero beyond the .01 level.*

ATTACHMENT II

FIGURE 1
COMPARISON OF 1979-80 SAT VERBAL AND MATH SCORE AVERAGES
FOR MIDWESTERN STATES AND THE NATION
SAT V&M SCORES PLOTTED VS. PROPORTION OF COLLEGE BOUND SENIORS



Estimated percentage of college-bound students taking tests.

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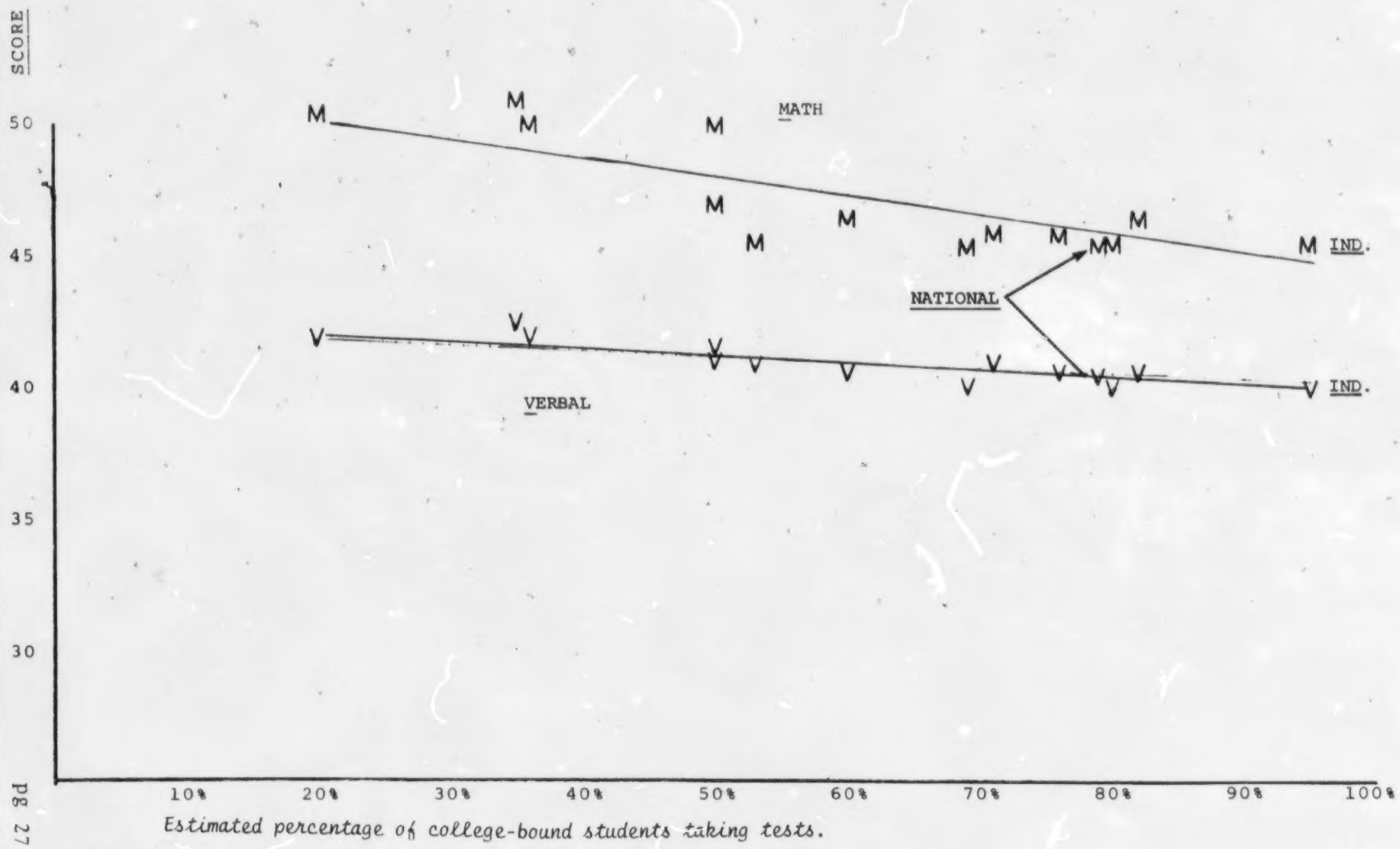
ATTACHMENT II

FIGURE 2

COMPARISON OF 1979-80 PSAT/NMSQT VERBAL AND MATH SCORE AVERAGES FOR MIDWESTERN STATES AND THE NATION

PSAT/NMSQT V&M SCORES PLOTTED VS. PROPORTION OF COLLEGE BOUND STUDENTS



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ATTACHMENT III

AMERICAN COLLEGE TESTING PROGRAM*
INDIANA VS. NATIONAL SCORE COMPARISONS

The premise was developed from SAT scores data and illustrations presented earlier, that the larger the proportional group of high school students in a given population who take the college (admissions) tests, the lower the mean/median their scores will be. Specifically, Indiana had a higher proportion taking the tests--and they scored lower than did the Midwestern Region and National populations. The premise is supported in the case of high school students taking the ACT* tests; however, the proportions and scores are reversed. In the ACT situation, a lower proportion of Indiana students took the tests--but scored higher in every subject tested than did the National population. See details in table below.

ACT HIGH SCHOOL PROFILES
INDIANA VS NATIONAL COMPARISONS
by Subject and Composite Scores

STD SCORE	ENGLISH		MATH		SOCIAL STUDIES		NATURAL SCIENCES		COMPOSITE	
	IND	NATL	IND	NATL	IND	NATL	IND	NATL	IND	NATL
26-36	7%	6%	17%	18%	18%	16%	27%	26%	14%	13%
21-25	31%	29%	22%	19%	22%	21%	26%	26%	27%	25%
16-20	32%	31%	22%	22%	22%	19%	29%	28%	30%	29%
1-15	30%	33%	39%	42%	37%	44%	18%	20%	29%	33%
Comparisons of Means and Standard Deviations										
Mean	18.3	17.9	17.9	17.4	18.0	17.2	21.4	21.1	19.0	18.5
S.D.	5.3	5.4	7.4	7.6	7.2	7.3	6.1	6.2	5.6	5.8
Statistically Significant	.001		.001		.001		.01		.001	

N's = INDIANA 2,531 NATIONAL 82,220 (10% sample)

**Source: American College Testing Program, High School Profile Report. Students tested in 1979-80 school year. State composite for Indiana.*

The finding that large proportions of students taking these tests are closely related to low average scores on the tests is supported statistically. See facing page.

ATTACHMENT III (CONTINUED)

(See facing page for related data)

ACT STATISTICAL SIGNIFICANCE COMPUTATIONS

$$S_{\bar{X}_1} = \frac{S_1}{\sqrt{N_1 - 1}} = \frac{S_1}{\sqrt{2530}} = \frac{S_1}{50.299} \qquad S_{\bar{X}_2} = \frac{S_2}{286.739}$$

	ENG.	MATH	SS	NAT SC	COMP
S_1 =	5.3	7.4	7.2	6.1	5.6
$S_{\bar{X}_1}$ =	.1054	.1471	.1431	.1213	.1113
S_2 =	5.4	7.6	7.3	6.2	5.8
$S_{\bar{X}_2}$ =	.0188	.0265	.0255	.0216	.0202

$$S_{D\bar{X}} = \sqrt{S^2_{\bar{X}_1} + S^2_{\bar{X}_2}}$$

$= \sqrt{.0111 + .0004} = \sqrt{.0115} = .1072$ (ENG)

$\sqrt{.0216 + .0007} = \sqrt{.0223} = .1493$ (MATH)

$\sqrt{.0205 + .0006} = \sqrt{.0211} = .1453$ (SS)

$\sqrt{.0147 + .0005} = \sqrt{.0152} = .1233$ (NS)

$\sqrt{.0124 + .0004} = \sqrt{.0128} = .1131$ (COMP)

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{S_{D\bar{X}}}$$

$= \frac{18.3 - 17.9}{.1072} = \frac{.4}{.1072} = 3.73^{***}$ (.001) (ENG)

$= \frac{17.9 - 17.4}{.1493} = \frac{.5}{.1493} = 3.35^{***}$ (.001) (MATH)

$= \frac{18.0 - 17.2}{.1453} = \frac{.8}{.1453} = 5.51^{***}$ (.001) (SS)

$= \frac{21.4 - 21.1}{.1233} = \frac{.3}{.1233} = 2.43^{**}$ (.01) (NS)

$= \frac{19.0 - 18.5}{.1131} = \frac{.5}{.1131} = 4.42^{***}$ (.001) (COMP)

ATTACHMENT IV

STATISTICAL ANALYSIS OF TABLE 1
SAT TEST SCORES (from page 1)

A two-step process was employed to test the difference between Indiana, Midwestern, and National averages on the SAT. This process was used separately for SAT Verbal averages and SAT Math averages. In step 1 of the process, a one-way analysis of variance procedure was employed in order to determine whether there was any significant difference among the means of the three groups. For both the SAT Verbal and SAT Math averages the analysis of variance indicated a very large statistical significance, that is, the means of the three groups differed. In the second step of the process each group was compared to each other group using a Newman-Keuls followup test. For both the SAT Verbal and SAT Math averages every group was different from every other. This two-step process (first an analysis of variance, then a Newman-Keuls followup) is the standard statistical procedure for testing more than two means against one another. The process is more conservative than using a set of t-tests to test every possible pair of means; a set of t-tests would be likely to overestimate how many group means were different.

$F_{critical}$ $(2,\infty,\alpha=.01)=4.61$ F value necessary in order to be significant.

$F_{observed}$ (SATV)=2,901. F obtained from SAT-V.

$F_{observed}$ (SATM)=3,553. F obtained from SAT-M.

SATV: $\sqrt{\frac{MS\ error}{\dot{n}}} = \sqrt{\frac{11977.107}{57941.656}} = \sqrt{.2067097} = .4546533$

Critical value for difference between 2 means =

$q(n, df)^* \sqrt{\frac{MS\ error}{\dot{n}}} = q(n, df)^* .4546533$

$q(2, \infty)^* .4546533 = 3.64^* .4546533 = \boxed{1.654938}$ $(\alpha=.01)$

$q(3, \infty)^* .4546533 = 4.12^* .4546533 = \boxed{1.873172}$ $(\alpha=.01)$

Differences between means = (446-407 = $\boxed{39}$) (446-424 = $\boxed{22}$) (424-407 = $\boxed{17}$)

$\therefore$ all means are significantly different.

SATM: $\sqrt{\frac{MS\ error}{\dot{n}}} = \sqrt{\frac{13664.314}{57941.656}} = \sqrt{.2358288} = .485622$

Critical value for difference between 2 means =

$q(n, df)^* \sqrt{\frac{MS\ error}{\dot{n}}} = q(n, df)^* .485622$

$q(2, \infty)^* .485622 = 3.64^* .485622 = \boxed{1.767664}$ $(\alpha=.01)$

$q(3, \infty)^* .485622 = 4.12^* .485622 = \boxed{2.0007626}$ $(\alpha=.01)$

Differences between means = (493-450 = $\boxed{43}$) (493-466 = $\boxed{27}$) (466-450 = $\boxed{16}$)

$\therefore$ all means are significantly different.